USSR

Aeronautical and Space

ENDER, I. A., ENDER, A. YA., Leningrad

"A Method of Solving the Boltzmann Equation in the Presence of Strong Deviations from Maxwell Distribution "

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 12-22

Abstract: This article contains an investigation of the distribution function as a set of all possible Maxwell distributions with arbitrary temperatures and mean velocities. The basic results are obtained for the case where the distribution function depends only on the velocity modulus. In this case, the expansion is carried out with respect to Maxwell distributions with different temperatures. Simultaneously with the distribution function, reexpansion is carried out with respect to the selected base and the collision integral of two Maxwell distributions. This part of the problem is solved analytically, and as a result the calculation of the collision integral is simplified appreciably. Thus, a detailed study of temperature relaxation in gases turns out to be possible.

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ENDER, I. A., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 12-22

There are no reliable methods of solving the Boltzmann kinetic equation for strong deviations from equilibrium. The basic methods are applicable in practice only for sufficiently small deviations from Maxwell distribution. In the present paper it is proposed that the distribution function $f(v, r, t)$ be represented in the form of an integral of the Maxwell distributions with all possible temperatures and mean velocities where each distribution is taken with a defined weight, that is,

$$f(v, z, t) = \int_0^\infty \int_{-\infty}^{+\infty} M(\alpha, v, u)\phi(\alpha, u, r, t)\,d\alpha du$$

$$M(\alpha, v, u) = (\alpha/\pi)^{3/2} e^{-\alpha(v-u)^2}, \qquad \alpha = m/2kT$$

This representation requires use of generalized functions since even when $f(v, r, t)$ is Maxwell distribution, $\phi(\alpha, u)$ is a δ-function. The method consists in the fact that the equation for ϕ is derived; a procedure for solving this equation is proposed; f is constructed by the ϕ found using the above equation.

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ENDER, I. A., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 12-22

The method is investigated in detail in the example of a simple kinetic problem. The following simplifications are assumed: the problem is assumed spatially homogeneous, and the distribution function at the initial point in time is assumed to depend only on the velocity modulus (the function is called spherically symmetric). These simplifications permit expansion of the distribution function with respect to Maxwell distributions with arbitrary temperatures and zero mean velocities.

It is noted that a representation of the distribution function as a set of Maxwell distributions is known in the literature [H. Mott-Smith, "The Solution of the Boltzmann Equation for a Shock Wave," Physics Review, Vol 82, No 6, 1951; F. Weitzsch, "A New Method for the Treatment of Gas Dynamics Problems for Cases of Large Deviation from Thermodynamic Equilibrium," Ann. Physik, Vol 7, No 7/8, 1961, page 403-417]. However, in the most general form this expansion was carried out with respect to a finite number of Maxwell distributions with indeterminant weights, temperatures and mean velocities. In determining these parameters the corresponding number of moment equations were written out. In this case the problem turns out not to be standardized,

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ENDER, I. A., et al., Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, January-February 1971, pp 12-22

and addition of new moment equations is connected with additional awkward calculations. The problem of investigating the accuracy of the solution obtained is quite difficult by this method. In the paper presented here an essentially different approach is investigated in that the collision integral is expanded along with the distribution function with respect to Maxwell distributions.

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1/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--THE DIFFERENTIAL DIAGNOSIS OF PATENCY DISTURBANCES OF THE SPLENOPORTAL TRUNK -U-

AUTHOR-(02)-NAKHOV, N.I., ENDER, L.A.

COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 4, PP 99-104

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DIAGNOSTIC METHODS, CIRCULATORY SYSTEM DISEASE, VEIN, LIVER, CIRRHOSIS, THROMBOSIS, BLOOD COAGULATION, TUMOR, PANCREAS, X RAY TECHNIQUE, SPLEEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1218 STEP NO--UR/0531/70/000/004/0099/0104

CIRC ACCESSION NO--AP0054113

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054113

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS EVALUATED CLINICO ROENTGENOMORPHOLOGICAL CONFRONTATIONS IN 58 PATIENTS, AGED 16 TO 54 YEARS, SUFFERING FORM DIFFERENT DISTURBANCES OF THE PATENCY OF THE SPLENOPORTAL TRUNK. IN 18 CASES THERE WERE CONGENITAL DEVELOPMENTAL DEFECTS OF THE PORTAL SYSTEM, IN 11, STENOSIS OF OBLITERATION OF PORTAL VESSELS DUE TO SPREAD OF THE OBLITERATING PROCESS FROM THE UMBILICAL VEIN IN THE POSTNATAL PERIOD, IN 16, PORTAL PHLEBITIS AND THROMBOPHLEBITIS. IN LIVER CIRRHOSIS THROMBOSIS WAS REVEALED IN 7 PATIENTS. IN THE REMAINING CASES THE FOLLOWING WERE OBSERVED: PHLEBOTHROMBOSIS IN GENERAL DISTURBANCES OF THE BLOOD COAGULATION SYSIEM. THROMBOSIS IN TUMORS OF THE LIVER AND PANCREAS. THE ROENTGNEOLOGICAL SEMIOTICS OF THE ABOVE MENTIONED PATENCY DISTURBANCES OF THE SPLENOPORTAL TRUNK AND CORRESPONDING CHANGES OF THE LEVEL OF THE PORTAL PRESSURE ARE DESCRIBED. THE AUTHORS DEMONSTRATE THAT IN THE DIFFERENTIAL DIAGNOSIS OF CAUSES OF PATENCY DISORDERS OF THE SPLENOPORTAL TRUNK OF PRIMARY IMPORTANCE ARE DATA OF X RAY INVESTIGATION, INCLUDING APART FROM SPLENOPORTOGRAPHY ALSO PHLEBRGRAPHY OF THE PROXIMAL REGION OF THE PORTAL SYSTEM WITH THE AID OF ILEOMESENTERICOGRAPHY. A CONCLUSION IS MADE THAT CAVERNOUS TRANSFORMATION REPRESENTS ONE OF THE MECHANISMS OF FUNCTIONAL ADAPTATION IN DISTURBED PATENCY OF MAJOR VESSELS OF THE PORTAL SYSTEM.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EMPIRICAL METHOD OF IDENTIFYING THE STRUCTURE OF ONE DIMENSIONAL NONLINEAR CONTROLLED PLANTS WITH AN EXTREMAL CHARACTERISTIC -U-
AUTHOR-(03)-GUGUSHVILI, A.SH., ENDELADZE, D.L., AREFYEV, B.O.

COUNTRY OF INFO--USSR

SOURCE--AVTOMATIKA, VOL. 15, MAR.-APR. 1970, P. 43-47

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--INDUSTRIAL AUTOMATIC CONTROL, NONLINEAR AUTOMATIC CONTROL, MATHEMATIC MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1807 STEP NO--UR/0102/70/015/000/0043/0047

CIRC ACCESSION NO--AP0135372

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF AN EMPIRICAL METHOD OF IDENTIFYING THE STRUCTURE OF PLANTS WHOSE MATHEMATICAL MODEL IS COMPOSED OF AN APERIODIC COMPONENT, A NONLINEAR COMPONENT, AND A DELAY COMPONENT CONNECTED IN SERIES. ANALYTICAL EXPRESSIONS FOR THE OUTPUT FUNCTIONS OF SEVERAL PLANT VERSIONS ARE DERIVED.

UNCLASSIFIED

USSR

UDC: 550.837

ENENSHTEYN, B. S., Geological Institute of the Academy of Sciences of the USSR, Moscow

"On the Equivalence of Geoelectric Cross Sections in the Method of Frequency Soundings"

Moscow, Doklady Akademii Nauk SSSR, Vol 209, No 3, 21 Mar 73, pp 597-600

Abstract: The author defines the region of applicability of the principle of equivalence to different geophysical methods of geological research. On the basis of the results of the study, certain conclusions are drawn concerning the resolution of the method of frequency soundings, and the feasibility of using these results for interpretation. The range of geoelectric cross sections of class *H* decreases with a reduction in the length of frequency sounding, which brings about favorable conditions for field measurements, improves their accuracy and increases prospecting economy. The range of equivalent cross sections of class *H* in the method of frequency soundings is an average of six times less than in the VEZ method, and 2-2.5 times less than in the MTZ method. This extends the possibilities for nonparametric interpretation of the results of field

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USSR

ENENSHTEYN, B. S., Doklady Akademii Nauk SSSR, Vol 209, No 3, 21 Mar 73, pp 597-600

measurements. The method also has the advantage that the magnetic field component predominates over the electric, which makes it effective in prospecting when geoelectric structures are shielded by intervening non-conductive or weakly conductive layers. The boundary of the region of equivalent cross sections with respect to the value of ν_2 is independent of the ratio S_2/S_1, and for all practical purposes depends only on the quantity $r(r/h_1)$.

Abstractor's comment: The notation and abbreviations used in the article are not explained; the reader is referred to Электроразведка (Electrical Prospecting) by A. I. Zaborovskiy for an explanation of the notations and abbreviations. The date of publication is given as 1963, but no publisher is given.

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USSR E UDC: 621.375.132.3

STRUTYNSKIY, Yu. F., EVENSHTEYN, B. S., Geology Institute of the Academy of Sciences of the USSR

"An Emitter Follower"

USSR Author's Certificate No 251011, filed 25 May 67, published 5 Feb 70 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7D154 P)

Translation: An emitter follower circuit based on a compound triode is proposed. To increase the output impedance, the base of the input transistor has connected to it the emitter of an additional transistor of opposite conductivity type. The collector of this second transistor is grounded and the input signal source is connected to its base.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200720020-6"

USSR

KAZARYAN, E. M., MAILYAN, G. L., ENFIADZHYAN, R. A., Yerevan State University

"Scattering of a Nonlocalized Exciton by Phonons in Thin Quantized Semiconductor Films"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Fizika, Vol 8, No 1, 1973, pp 47-53

Abstract: The authors compute the relaxation time of a nonlocalized exciton due to scattering by photons in quantized thin-film semiconductors. Cases of acoustic and optical phonons are examined. Relations are found for relaxation time as a function of energy and film thickness for different electron/hole mass ratios. In conclusion, the authors thank P. A. Bezigranyan for continued interest in the work.

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USSR

UDC: 621.315.592

KAZARYAN, E. M. and ENFIADZHYAN, R. L., Yerevan State University

"The Possibility of Forming Complexes of Quasi-Particle Electrons and Holes in Fine Semiconductor Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1375-1376

Abstract: This theoretical article considers a system consisting of two holes and one electron in a two-dimensional semiconductor medium under the condition that the exciton radius exceeds the semiconductor film thickness. The authors start by using the analogy with the ion of the hydrogen molecule, taking the nonadiabaticity term into account. Using the perturbation theory for the bond energy in the state described by the symmetrical wave function, they obtain an expression for the energy of dissociation of the two-hole one-electron complex. This expression contains three terms: the first is the result of the interaction of the electron and the two holes; the second is the result of zero oscillation; the third describes the hole motion. Appreciation is acknowledged to P. A. Bezirganyan for discussing the results of the work, and to G. Gulkanyan for making the numerical computations.
1/1

USSR

UDC 669.721.046.4

LYANDRES, M. B., SOLOMENTSEV, V. A., REZNIKOV, I. L., SOLOV'YEV, Yu. V., ENGEL', E. K.

"Automation of the Process of Dehydration of Carnallite in Fluidized Bed Furnaces"

Avtomatiz. Proizv. Protsessov Tsvet. Metallurgii [Automation of Production Processes in Nonferrous Metallurgy -- Collection of Works], Ordzhonikidze, Ir Press, 1971, pp 78-80, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G244 by G. Svodtseva).

Translation: The production of dehydrated carnallite has been automated at the carnallite shop of the Berezanikovskiy titanium-magnesium combine on the basis of scientific research and planning-design work, allowing a significant technical-economic effect to be produced and the productivity of labor to be increased by 2 times.

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USSR

ENGEL'BERT, G. YU.

"The Theory of Optimal Stopping Rules for Markov Processes"

Teoriya Veroyatnostey i yeye Primeneniya [The Theory of Probabilities and Its Applications], 1973, Vol 18, No 2, pp 312-320 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V93)

Translation: Suppose $X = (x_t, \zeta, \mathcal{M}_t, P_x)$ is an interrupted (at moment ζ) homogeneous standard Markov process with continuous time $t \geq 0$ in (semicompact) [E, $\mathfrak{B}$].

In book of A. N. Shiryayev, Statisticheskiy Posledovatel'nyy Analiz [Statistical Sequential Analysis], Moscow, 1969, as analysis is presented of the problem of determination of the "price"

$$s(x) = \sup_{\tau} M_x g(x_\tau),$$

where $g(x_\tau)$ can be looked upon as the gain produced at the moment of stopping τ of observations in state x_τ. In this book, problems of the existence of ε-optimal and optimal Markov moments were studied under the assumption of limitedness of function $g(x)$ or the assumptions of smoothness of functions $g(x)$ and $s(x)$. Integral and "differential"

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ENGEL'BERT, G. YU., Teoriya Veroyatnostey i yeye Primeneniya, 1973, Vol 18, No 2, pp 312-320

equations are presented for the "price" s(x) under (basically) the same assumptions.

The present work generalizes the results presented in this book to the case $g \in L(A^-, A^+)$, where $L(A^-, A^+)$ is defined as follows. Suppose $\mathfrak{B}$ is a σ-algebra of almost Borelian sets. We represent by B the set of all measurable functions in $[E, \mathfrak{B}]$, taking on values from the interval $(-\infty, +\infty)$, and by L we represent the set of all $g \in B$ for which

$$M_x g^-(x_t) < +\infty, \quad t \geq 0, \quad x \in E,$$

which are lower C_0-continuous. By $L(A^-)$ and $L(A^+)$ we represent the classes of functions from L for which process $g(x_t)$ is separable and the following conditions are fulfilled

$$A^-: M_x[\sup g^-(x_t)] < \infty, \quad x \in E,$$

$$A^+: M_x[\sup g^+(x_t)] < \infty, \quad x \in E,$$

respectively. Then $L(A^-, A^+) = L(A^-) \cap L(A^+)$. Author's view

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USSR

UDC 539.3+534.231.1

NIGUL, U. K., ENGEL'BREKHT, Yu. K.

"Nonlinear and Linear Transient Wave Processes in the Deformation of Thermoelastic and Elastic Bodies"

Nelineynyye i lineynyye perekhodnyye volnovyye protsessy deformatsii termouprugikh i uprugikn tel (cf. English above), Institute of Cybernetics, Academy of Sciences Estonian SSR, Tallin, 1972, 76 pp, ill., 82 k. (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V104 K)

Translation: The monograph discusses linear and nonlinear wave processes in solids considering temperature effects. It consists of three chapters and 14 sections. The first chapter constructs a mathematical model of the nonlinear theory of thermoelasticity considering geometric and physical nonlinearity. Familiar versions of linear and nonlinear equations of heat conductivity are derived from the closed nonlinear system of equations obtained describing the behavior of a thermoelastic medium as a result of certain simplifications. The second chapter presents a classification of methods for analyzing transient processes excited by pulse effects. Particularly discussed is the method of characteristics for solving one-dimensional and two-dimensional

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NIGUL, U. K., ENGEL'BREKHT, Yu. K., Nelineynyye i lineynyye perekhodnyye volnovyye protsessy deformatsii termouprugikh i uprugikh tel, Institute of Cybernetics, Academy of Sciences Estonian SSR, Tallin, 1972, 76 pp, ill., 82 k.

problems, the grid method and other methods. The third chapter analyzes nonlinear and thermoeffects in the simplest problems of one-dimensional transient wave processes and particular attention is given to problems of the rise of shock waves and a shock profile. I. G. Filippov.

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--BIOLOGICAL BOMB -U-

AUTHOR--ENGELGAROT, V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, NEDELYA, 12-18 JAN 70, P 7

DATE PUBLISHED----JAN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGAN TRANSPLANT, HUMAN GENETICS, PSYCHOTHERAPEUTIC DRUG, SCIENTIFIC RESEARCH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1108 STEP NO--UR/9030/70/000/000/0007/0007

CIRC ACCESSION NO--AN0121669

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AN0121669

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. G. R. TAYLOR'S BOOK THE BIOLOGICAL TIME BOMB IS REVIEWED. THE STYLE IS CONSIDERED SENSATIONALIST AND VOCIFEROUS AND THE FEARS EXAGGERATED. THE CONCEPT OF THE SOCIAL RESPONSIBILITY OF THE SCIENTIST IS ENDORSED. THE ISSUED INVOLVED IN ORGAN TRANSPLANTS, PROLONGATION OF LIFE, GENE ENGINEERING, USE PSYCHOPHARMACOLOGICAL AGENTS, AND OTHER ASPECTS OF CURRENT BIOMEDICAL RESEARCH ARE LESS SCIENTIFIC THAN MORAL AND ETHICAL. THE BOOK IS CONSIDERED SOMEWHAT PRIMITIVE CONSISTING OF FACTS AND NOT PHILOSOPHICAL GNERALIZATIONS. NEVERTHELESS THE WORK UNDER REVIEW WILL PROVIDE THE SOCIALIST AND GENERAL READER WITH MATERIAL FOR THOUGHT. HOW CAN MAN ESCAPE THE COMPLEX SITUATIONS LIKELY TO BE CREATED BY THE SWIFT PACE OF SCIENCE.

UNCLASSIFIED

USSR

ENGEL'GARDT, V.

E

"Biological Bomb?"

Moscow, Nedelya, 12-18 Jan 70, p 7

Abstract: G. R. Taylor's book The Biological Time Bomb is reviewed. The style is considered sensationalist and vociferous and the fears exaggerated. The concept of the social responsibility of the scientist is endorsed. The issues involved in organ transplants, prolongation of life, gene engineering, use of psychopharmacological agents, and other aspects of current biomedical research are less scientific than moral and ethical. The book is considered somewhat primitive consisting of facts and not philosophical generalizations. Nevertheless the work under review will provide the socialist and general reader with material for thought. How can man escape the complex situations likely to be created by the swift pace of science?

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1/2 046 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DETERMINATION OF THE BITUMINOUS COMPOUND CONTENT IN RAMJET FUELS -U-

AUTHOR-(03)-ENGLIN, B.A., MARINCHENKO, N.I., BORISOVA, S.M.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(4), 53-5

DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS, CHEMISTRY

TOPIC TAGS--CHEMICAL PURIFICATION, CHEMICAL ANALYSIS, LIQUID FUEL, RAMJET ENGINE, ORGANIC SOLVENT, SOLVENT EXTRACTION, PENTANE, ISOMER, ALUMINUM OXIDE, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/2087 STEP NO--UR/0065/70/015/004/0053/0055

CIRC ACCESSION NO--AP0127460

UNCLASSIFIED

2/2 046 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0127460

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESINOUS BITUMINOUS MATTER IN FUELS WERE ADSORBED WITH AL SUB2 O SUB3 OF 28-65 MESH, ACTIVATED 2 HR AT 800DEGREES. AFTER FILTERING THE FUEL, THE HYDROCARBONS WERE WASHED WITH ISO-C SUB5 H SUB12. THE BITUMINOUS MATTER WERE DESORBED WITH ACOH AND THEN WITH WATER. THE BULK SOLN. WAS SLOWLY NEUTRALIZED WITH 25PERCENT NH SUB3 SOLN. ADDED WITH NA SUB2 SO SUB4, AND EXTD. WITH ET SUB2 O. THE EXTN. LIQ. WAS EVAPD. ON A WATER BATH AND THE RESINOUS BITUMINOUS MATTERS OBTAINED WERE BROUGHT TO CONST. WT. IN VACUO. FOR SEPG. THE VARIOUS FRACTIONS OF THE BITUMINOUS MATTER, DIFFERING BY THEIR OXIDN. DEGREE, THEY WERE SUCCESSIVELY DESORBED WITH DIFFERENT DESORBENTS, THE LATTER BEING ACOH.

UNCLASSIFIED

USSR

UDC 546.183 + 546.22

VOROB'YEV, M. D., FILATOV, A. S., and ENGLIN, M. A.

"Reaction of Phosphorus Trichloride With Difluorides of Perfluoroalkylimines of Sulfur and Some of its Fluoroinorganic Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1942-1944

Abstract: The reaction of phosphorus trichloride with the difluorides of sulfur perfluoroalkylimines and some inorganic fluorinated sulfur compounds was investigated. It was established that the halogen exchange is accompanied by oxidation-reduction reactions. When phosphorus oxychloride was used -- the reaction mixture had to be heated to 150° or more. Sulfur hexafluoride appeared to be completely inert, failing to react with PCl_3 even at 180°C.

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1/2 029 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--REACTION OF HEXAFLUORODIMETHYLAMINE OXIDE. V. KINETICS OF THE REACTION OF HEXAFLUORODIMETHYLAMINE OXIDE WITH POLYHALOGENATED OLEFINS

AUTHOR-(04)-MELNIKOVA, A.V., BARANAYEV, M.K., MAKAROV, S.P., ENGLIN, M.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2) 382-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION KINETICS, HALOGENATED ORGANIC COMPOUND, ALKENE, FLUORINATED ORGANIC COMPOUND, AMINE, ORGANIC OXIDE, CHEMICAL REACTION RATE, ACTIVATION ENERGY, BUTENE, CYCLIC GROUP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1581 STEP NO--UR/0079/70/040/002/0382/0385

CIRC ACCESSION NO--AP0112575

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING VALUES AT INDICATED TEMP. WERE DETD. FOR TITLE REACTION RATE CONSTS. (K TIMES 10 PRIME6 MIN PRIME NEGATIVE1 MM PRIME NEGATIVE1) AND ACTIVATION ENERGIES (KCAL-MOLE), RESP. BETWEEN (CF SUB3) SUB2-NO. AND INDICATED OLEFINS: CF SUB2:CHF, 0DEGREES, 16.12, 7.0; 7DEGREES 16.7, 7.0; 22DEGREES 47.3, 7.0; CF SUB3 CF:CF SUB2, 0DEGREES, 2.67, 7.4; 22DEGREES, 7.4, 7.4; 50DEGREES, 228, 7.4; (CF SUB3) SUB2 C:CF SUB2, 100DEGREES, 4.2, 9.4; 140DEGREES, 10.6, 9.4; 170DEGREES, 31, 9.4; CF SUB2:CH SUB2 70DEGREES 5.43, 9.4; 100DEGREES 13.74, 9.4; AND PERFLUOROCYCLOBUTENE 170DEGREES 3.4, 9.9; 225DEGREES, 12.57, 9.9.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--REACTIONS OF BIS(TRIFLUOROMETHYL) NITROXIDE. VI. POLYMERIZATION OF TETRAFLUOROETHYLENE IN THE PRESENCE OF AN INITIATOR, SUCH AS

AUTHOR-(04)-MELNNIKOV, A.V., BARANAYEV, M.K., MAKAROV, S.P., ENGLIN, M.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(1) 117-18

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYTETRAFLUOROETHYLENE, POLYMERIZATION, NITROGEN OXIDE, CHEMICAL REACTION MECHANISM, ORGANIC NITRO COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1413 STEP NO--UR/0063/70/015/001/0117/0118

CIRC ACCESSION NO--AP0112407

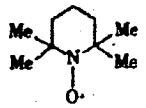
UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--020CT70
CIRC ACCESSION NO--AP0112407
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYMN. OF C SUB2 F SUB4 WAS INITIATED BY 1-30PERCENT (CF SUB3) SUB2 NO (I) AT 240-50DEGREES TO GIVE A SOLID POLYMER (WHEN I CONCN. WAS 1-3PERCENT) OF MOL. WT. 2 TIMES 10 PRIME4. A REACTION MECHANISM WAS PROPOSED. THE PROPAGATION RATE CONST. WAS SIMILAR TO 25.5 L.-MOLE MIN AND THE TERMINATION RATE CONST. WAS SIMILAR TO 3,000.

UNCLASSIFIED

Acc. Nr. AP0100194 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code 4R0020

111959a **Morphological features of polyformaldehyde studied by a spin probe method.** Stryukov, V. B.; Dubovitskii, A. V.; Rozenberg, B. A.; Enikolopyan, N. S. (Inst. Khim. Fiz., Moscow, USSR). *Dokl. Akad. Nauk SSSR* 1970, 190(3), 642–4 (Phys Chem] (Russ). The EPR spectra of polyformaldehyde (I) sam-



(II)

ples contg. II (used as a spin probe) depend on the distribution of II in I, which in turn is dependent on the type of the mol. packing of I amorphous regions. The spectral differences between I prepd. by the cationic polymn. of trioxane and anionic polymn. of gaseous HCHO, using Ph_3CSbF_6 or Sn stearate, resp., as the catalysts, showed that the former has more compact amorphous regions and it absorbs II slower.

CPJR

II

REEL/FRAME
19841576

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ENKER K.P.

Acc. Nr: AP0034229 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code: UR 0079

71209h Water-dioxane-perchloric acid, water-dioxane-potassium tetrachloropalladate(II), and water-dioxane-potassium tetrabromopalladate(II) systems. Golodov, V. A.; Fasman, A. B.; Roxanov, V. V.; Enker, K. P. (Kaz. Gos. Univ., Alma-Ata, USSR). *Zh. Neorg. Khim.* 1970, 15(1), 230-9 (Russ.). Effect of $HClO_4$, K_2PdCl_4, or K_2PdBr_4 addn. was studied on elec. cond., viscosity (η), and d. of dioxane-water system at 25 and 45°. Addn. of $HClO_4$ or K_2PdX_4 (X = Cl or Br) did not affect the nature of d. and η isotherms. Elec. cond. decreased with increasing concn. of dioxane in the mixt. due to decreased dissocn. of the additives studied. HMJR

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REEL/FRAME 19710879

USSR

UDC 615.616.24-003.656.6

RODKINA, B. S., YEN'KOVA, P. A.

"Effect of Dexamethazone on the Development of Experimental Silicosis"

V sb. Materialy XXI-XXII plenumov Resp. komis. po bor'be s silikozom (Materials of the 21st to 22nd Plenums of the Republic Commission for Controlling Silicosis--Collection of Works), Kiev, Nauk. dumka, 1972, pp 97-104 (from RZh-Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.876)

Translation: Less intense development of silicosis was observed in male rats administered 100 mg of quartz dust once intratracheally and then after 4.5 months, 3 times a week receiving 0.025 mg of dexamethazone (I) internally. In the rats which 12 days after administration of 75 mg of powdered quartz received I internally twice a day in the amount of 0.02-0.03 mg for 2.5 months and then hydrocortisone daily intramuscularly in a 1 mg dose, inhibition of the silicosis development was not observed after 4-4.5 months. Atrophy of the adrenal glands was noted here. It is considered that on daily administration of I, the corticotropic function of the hypophysis was inhibited. The bibliography has 17 entries. USSR, Donetsa, Institute of Hygiene of Labor and Professional Disease.

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USSR UDC 615.616.24-003.656.6

RODKINA, B. S., EN'YAKOVA, P. A.

"Effect of Amorphous Silica on the Experimental Development of Silicosis"

V sb. Materialy XXI-XXII plenumov Resp. komis. po bor'be s silikozom (Materials of the Twenty-first to Twenty-second Plenums of the Republic Commission for Controlling Silicosis--Collection of Works), Kiev, Naukova dumka, 1972, pp 83-90 (from RZh--Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.880)

Translation: Amorphous silica was heated for three hours at a temperature of 500-600° and administered intratracheally to male rats in a dose of 22 mg. From 4.5 to 5 months later, a sharp increase in weight of the paratracheal lymph nodes and a 183 percent increase in the collagen content in the lungs were detected; histologically, in the lungs there was the standard picture of nodular silicosis in the far-advanced stage. The sharp fibrogenic activity of the fired amorphous silica is explained by water loss which promotes release of the active centers on the surface of the

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RODKINA, B. S., EN'YAKOVA, P. A., Materialy XXI-XXII plenumov Resp. komis. po bor'be s silikozom, 1972, pp 83-90

dust particles and elimination of the shielding effect of the hydroxyl groups bound to the surface. The bibliography has 21 entries. USSR, Donetsk, Scientific Research Institute of Hygiene of Labor and Professional Disease.

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USSR UDC: 537.312.62

ENMAN, V. K., KRAINSKIY, I. S., BARANOV, I. A., KONOVALOV, N. T.

Production and Investigation of Tape with Nb_3Sn Coating"

Moscow, Sverkhprovodyashchiye splavy i soyedin.--sbornik (Superconductive Alloys and Compounds--collection of works), "Nauka", 1972, pp 60-63 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D548 [résumé])

Translation: An installation is developed for continuous heat treatment of niobium tape in a tin bath. On this installation a study was made of the influence of temperature and rate of the process on the critical parameters of the tape. It is concluded that it is advisable to use additional heat treatment of tape having a coating of $Nb_3Sn + Sn$. Two illustrations, bibliography of four titles.

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USSR UDC: 537.312.62

probably correct as is

KRAINSKIY, I. S., MAZOKHIN, S. S., SOKOLOV, V. I., SHCHEGOLEV, I. F., ENMAN, V. K.

"A Vacuum Installation for Making the Compound Nb_3Sn by a Continuous Method With Diffusion of Tin Into a Niobium Base From a Melt"

V sb. Probl. sverkhprovodyashchikh materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 124-130 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D540)

Translation: The article contains a constructive description of an installation designed for continuous production of a thin layer of Nb_3Sn compound on niobium stock (band, wire, cable) of considerable length as it is drawn through a bath with a melt of tin heated to 950-1050°C in a vacuum at a predetermined pulling rate. When the pulling rate is increased or the temperature of the molten tin is reduced, niobium stock covered with a thin layer of tin may be produced, the Nb_3Sn compound being produced by subsequent heat treatment. The installation provides a high vacuum, a wide range of pulling rates (0.72-570 m/hr) and controllable molten tin temperature, and can be used to study the effect of various factors on the critical characteristics of superconductors with Nb_3Sn compound. Critical characteristics are presented for the first experimental specimens of superconducting strip made on the installation. Four illustrations, one table, bibliography of four titles. Authors' abstract.

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USSR

UDC 537.312.62+533.599

KRAINSKIY, I. S., MAZOKHIN, S. S., SOKOLOV, V. I., SHCHEGOLEV, I. F., and ERMAN, V. K.

"Vacuum Installation for Production of Nb_3Sn by Continuous Method by Diffusion of Tin in Niobium Base from Melt"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials — Collection of Works], Moscow, Nauka Press, 1970, pp 124-130

Translation: A constructive description is presented of an installation in which a continuous process of formation of a thin layer of the compound Nb_3Sn on a niobium profile (strip, wire, cord) of great length is performed by drawing through a bath of melted tin at 950-1,050°C in a vacuum at a predetermined drawing rate. If the drawing rate is increased or the bath temperature is decreased, the installation can be used to produce a niobium shape coated with a thin layer of tin without formation of the compound Nb_3Sn, which is formed upon later heat treatment. The installation, which can produce a high vacuum and can provide a wide range of speeds (0.72-570m/hr) and an adjustable tin melt temperature, allows the study of the influence of various factors on the critical characteristics of superconductors of the compound Nb_3Sn to be performed.

Critical characteristics of this first experimental specimens of superconducting strip produced on the installation are presented.

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USSR UDC 546.161:541.183.12

KORNELLI, M. E., OLENOVICH, N. L., ENNAN, A. A., SURANOVA, Z. P., KUSHNIR, A. A., and MIKHAYLOVINA, S. K.

"Sorption of Fluoride Ion on Anionite EDE-10P in the Hydroxyl Form"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol 38, No 11, 1972, pp 1172-1174

Abstract: The sorption of fluorine from solutions of NaF and HF by the anionite EDE-10pi in the hydroxyl from was studied. Resin in the hydroxyl form, air dried, was loaded into a polyethylene column, and sorption was accomplished by passing solutions of NaF and HF at varying rates of filtration. The anionite was then washed, first with distilled water and then with solutions of either NaOH of KOH. The degree of charging of the ionite during sorption from acidic solutions is significantly higher than that from weakly alkaline solutions (NaF). During the washing of the resin with water there appears a quantity of fluorine which cannot completely be attributed to the hydrolysis of the resin. This is brought about by molecular sorption or desorption from the sorbed material. The first filtrate fractions during elution with alkali have an acidic reaction, which points to desorption into solution of an acidic bifluoride ion, which in the process of sorption is taken up by the resin. This is
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KORNELLI, M. E., et al., Ukrainskiy Khimicheskiy Zhurnal, Vol 38, no 11, 1972, pp 1172-1174

supported by the bimodality of the elution curve during desorption with alkali, suggesting the presence in the ionite phase of 2 types of ions(F^- and HF_2^-). By selecting the type of eluent and its concentration in solution during desorption of the fluoride ion from EDE-10pi resin, one can obtain concentrated solutions of metal fluorides. Thus EDE-10P can be used for concentration of fluoride ions in analytical and applied chemistry.

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USSR

UDC 598.126-114.52:577.15.172

YEVSEEVA, L. F., ENRIKES, O. M., Institute of Epidemiology and Microbiology imeni N. F. Gamalei, USSR Academy of Medical Sciences

"Methods of Obtaining and Properties of the Echis Carinatus Poison Kininogenase"

Moscow, Farmakologiya i Toksikologiya, Vol 36, No 4, Jul/Aug 73, pp 462-465

Abstract: A kinin-releasing enzyme, kininogenase, was purified from the poison of Echis carinatus by use of ion exchange chromatography on DEAE-cellulose in a gradient of phosphate buffer, pH 8.0 and on CM-cellulose in gradients of phosphate buffer, pH 8.0 and Tris-HCl buffer, pH 8.0. Two proteins possessing kininogenase activity, fraction 1 at 0.005 M phosphate buffer and fraction 2 at 0.04-0.05M phosphate buffer, were eluted from the DEAE column. Fraction 1 contained 600-800 mcg of protein, 2-3 active units and kininogenase activity purified 2-3 fold. Fraction 2 contained 25-50 mcg of protein, intensification of kininogenase activity was 3-4 fold and contained 3-4 active units. The esterase activity of fraction 2 was 1-1/2-2 times higher than fraction 1. Caseinolytic activity of fraction 1 and 2 was the same, 14-16 units. It was found that both fractions had the same optimum pH activity of 8.0 but in different buffers; fraction 1 in phosphate buffer, fraction 2 in Tris-HCl buffer. Further purification of fractions 1 and 2 was performed on CM-cellulose columns.

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APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200720020-6"

USSR

YEVSEEVA, L. F., and ENRIKES, O. M., Farmakologiya i Toksikologiya, Vol 36, No 4, Jul/Aug 73, pp 462-465

Fraction 1 demonstrated high stability during storage in a lyophilized state, maintaining activity for a month; fraction 2 was partially inactivated in that time. Dialysis did not affect fraction 1 activity but fraction 2 lost part of its activity during dialysis. Proteolytic enzyme inhibitors such as ε-amino caproic acid and trazilol did not inhibit kininogenase in fractions 1 or 2. Polyacrylamide gel electrophoresis of fraction 1 showed a slow migrating protein band and a minor fast moving band; fraction 2 showed 2 intense bands, one fast moving and one medium speed and a faint slow band. Kinetic studies showed fraction 1 to be very slow (40 minutes) in releasing kinin; fraction 2 released kinin in 10 minutes. It was concluded that the poison of Echis carinatus contains two fractions which possess kininogenase activity: fraction 1 is the kininogenase in a weak active form blocked by another protein; fraction 2 is the active form of kininogenase. Kininogenase activity and esterolytic activity were inhibited by the tryptic soy inhibitor and suggested a parallelism between kininogenase and protease activity. This kinin, released by kininogenase of poison of Echis from Kininogen 2, was identified as bradikinin.
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1/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--DOUBLE MEMBRANE DILATOMETER -U-

AUTHOR-(05)-SAKYAINA, L.I., ANTROPOV, A.A., YEVREINOV, V.V., ENTELIS, S.G., SOZHKOV, A.K.
COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(3), 705-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DILATOMETRIC ANALYSIS, POLYMERIZATION, CHEMICAL REACTION RATE, OLIGOMER, ADIPATE, POLYETHYLENE, ORGANIC ISOCYANATE, CHEMICAL LABORATORY APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0312 STEP NO--UR/0459/70/012/003/0705/0709

CIRC ACCESSION NO--AP0111506
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0111506

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DILATOMETER CONSISTS OF 2 HERMETICALLY SEALED CHAMBERS SEPD. BY A MEMBRANE. THE POLYMN. IS CONDUCTE IN 1 CHAMBER AND THE OTHER IS CONNECTED TO A REGULATING RECORDING SYSTEM, WHICH AUTOMATICALLY EQUALIZES THE PRESSURE ON BOTH SIDES OF THE MEMBRANE AND RECORDS ITS CHANGES. THE APP. WAS CHECKED BY DETG. THE RATE CONSTS. OF THE REACTION BETWEEN OLIGOMERIC POLY(ETHYLENE ADIPATE) AND ALPHA NAPHTHYLENE DIISOCYANATE, HEXAMETHYLENE DIISOCYANATE, OR 4,4PRIME; DIPHENYLMETHANE DIISOCYANATE, DILATOMETRICALLY AS WELL AS BY A CHEM. METHOD (H. E. STAGG, 1946).

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--MOLECULAR WEIGHT DISTRIBUTION AND FUNCTIONALITY OF OLIGOMERIC POLYDIETHYLENE GLYCOL ADIPATES -U-

AUTHOR-(04)-YEVREINOV, V.V., GERBICH, V.I., SARYNINA, L.I., ENTELIS, S.G.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(4), 829-35

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENE GLYCOL, MOLECULARWEIGHT, CHROMATOGRAPHIC ANALYSIS, HYDROXYL RADICAL, SILICA GEL/(U)ASK SILICA GEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1263 STEP NO--UR/0459/70/012/004/0829/0835

CIRC ACCESSION NO--AP0134937

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134937
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OLIGOMERIC POLY(DIETHYLENE GLYCOL ADIPATES) (I) (OF MOL. WT. 370-2240) WERE FRACTIONATED BY ELUTION CHROMATOG. (BY USING SILICA GEL ASK (II) AS A SOLID PHASE AND MECOET AS AN ELUENT). THE FRACTIONATION OF I DEPENDED PRIMARILY ON THE ADSORPTION INTERACTION OF TERMINAL OH GROUPS WITH II. THE PERCENTAGE OF I MOLS. CONTG. FEWER THAN 2 TERMINAL OH GROUPS AND THEIR MOL. WT. DISTRIBUTION WAS EVALUATED FROM THE DEVIATION OF THE MU SUBN PRIMEOH:MN RATIO FROM UNITY (MU SUBN IS THE NO. AV. MOL. WT. AND MU SUBN PRIMEOH IS THE MOL. WT. DETD. FROM THE NO. OF TERMINAL OH GROUPS).
FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

ENTIN, G. M.

Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma (A Practical Handbook for the Treatment of Alcoholism), "Meditsina", Moscow, 1972, 232 pp.

Translation:

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Ru ovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo, po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

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USSR

ENTIN, G. M., Prakticheskoye Rukovodstvo po Lechniyu Alkogolizma, "Meditsina, Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lechniyu Alkc olizma, "Meditsina," Moscow, 1972, 232 pp

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ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

ENTIN, G. M., Prakticheskoye Rukovodstvo po Lecheniyu Alkogolizma, "Meditsina," Moscow, 1972, 232 pp

17/17

1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--CONCERNING THE CLINICAL PICTURE AND TREATMENT OF ALCOHOLIC PSYCHOSE IN OLD AGE -U-

AUTHOR--ENTIN, G.M.

E

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 5, PP 743-750

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--ALCOHOL, PSYCHOSIS, GERONTOLOGY, HALLUCINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1127 STEP NO--UR/0246/70/070/005/0743/0750

CIRC ACCESSION NO--AP0115146

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115146

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMONG THE 347 PATIENTS IN THE AGE GROUPS OF 60-86 YEARS WITH ALCOHOLISM, ALCOHOLIC PSYCHOSES WERE OBSERVED IN 204 CASES (58.7PERCENT). ACUTE ALCOHOLIC PSYCHOSES WERE THE MOST FREQUENT: DELIRIUM STATES IN 97 CASES (47.5PERCENT), HALLUCINOSIS, IN 29 CASES (14.3PERCENT). DELUSIONAL AND HALLUCINATORY PARANOID PSYCHOSES WERE SEEN IN 46 PATIENTS (22.5PERCENT). VASCULAR AND SOMATOGENIC PSYCHOSES AGAINST THE BACKGROUND OF CHRONIC ALCOHOLISM WERE SEEN IN 32 CASES (15.7PERCENT). THE AUTHOR DESCRIBES THE CLINICAL FEATURES AND SPECIAL FORMS OF THERAPY IN EACH OF THE ABOVE, MENTIONED GROUPS. IT IS BEING STRESSED THAT ACTIVE ANTIALCOHOL THERAPY CAN BE CONVENED IN SUCH CASES. FACILITY: KLINIKA ALKOGOL'NYKH ZABOLEVANIY MOSKOVSKOGO N I INSTITUTA PSIKHIATRII MINISTERSTVA ZDRAVOOKHRANENIYA RSFSR.

UNCLASSIFIED

1/4 011 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--UTILIZATION OF MAPS OF RATE OF VERTICAL MOVEMENT OF THE EARTH'S SURFACE WHEN DEVELOPING AND ADJUSTING THE LEVELING NET -U-

AUTHOR--ENTIN, I.I. Correct

COUNTRY OF INFO--USSR

SOURCE--GEODEZIYA I KARTOGRAFIYA, NO 2, 1970, PP 8-13

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--MAP, VERTICAL EARTH CRUST MOVEMENT, GEODETIC LEVELING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1257 STEP NO--UR/0006/70/000/002/0008/0013

CIRC ACCESSION NO--AP0136668

UNCLASSIFIED

2/4 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136668

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MAP OF THE RATE OF VERTICAL MOVEMENTS OF THE EARTH'S SURFACE IN THE WESTERN EUROPEAN USSR WAS PUBLISHED IN 1958 AND MADE MORE PRECISE IN 1963. ALONG WITH THE GEOGRAPHIC BASE, THE ISOLINES OF EQUAL RATES OF VERTICAL MOVEMENT OF THE EARTH'S SURFACE AND REPEATED LEVEL LINES ARE ALSO PLOTTED ON THE MAPS. COMPILATION OF SUCH MAPS IS NOT DISCUSSED IN THIS ARTICLE, BUT THE THEORY AND PRACTICE OF UTILIZING THEM TO DEVELOP AND ADJUST A LEVELING NET ARE DESCRIBED IN DETAIL. A FORMULA IS PRESENTED FOR THE POSSIBLE VARIATION DELTA H OF THE DIFFERENCE H BETWEEN ANY POINT A AND B WHICH CAN BE USED TO DETERMINE THE RATE OF VERTICAL MOVEMENT OF THE EARTH'S SURFACE: DELTA H MINUS V SUBB (T SUBO MINUS T SUBB) MINUS V SUBA (T SUBO MINUS T SUBA), WHERE V SUBA AND V SUBB ARE THE VERTICAL DISPLACEMENT RATES OF THE STATIONS A AND B, MM-YEAR, AND (T SUBO MINUS T SUBA) AND (T SUBO MINUS T SUBB) ARE THE TIME INTERVALS (IN YEARS) BETWEEN THE GIVEN TIME T SUBO AND THE LEVELING TIMES T SUBA AND T SUBB OF THE STATIONS A AND B. IT IS POINTED OUT THAT THIS ESTIMATE OF THE POSSIBLE VARIATION IN THE DIFFERENCE CAN BE USEFUL IN MANY CASES INCLUDING WHEN RUNNING A NEW LEVEL LINE BETWEEN ELEVATION MARKS USED EARLIER. CONSIDERATION OF THE MAGNITUDE OF THE DELTA H IN THIS CASE MAKES IT POSSIBLE TO JUDGE WHETHER AN INTOLERABLE DISCREPANCY IS THE RESULT ONLY OF LEVELING ERRORS OR IT REFLECTS AN ACTUAL CHANGE IN ELEVATIONS OF THE INITIAL MARKS. IT IS ALSO CONVENIENT TO USE THE ESTIMATE OF DELTA H FOR CHOOSING LINES WHICH ARE NEEDED FOR UPDATING.

UNCLASSIFIED

3/4 011 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0136668

ABSTRACT/EXTRACT--EXAMPLES ARE PRESENTED FOR PLANNING AND RUNNING A NEW SECOND ORDER LEVEL LINE BETWEEN TULA AND LIPETSK AND BETWEEN KURSK AND LIPETSK. THE EXAMPLES ARE OF INTEREST IN THAT TULA AND LIPETSK LIE IN THE SAME ZONE OF SUBSIDENCE AND KURSK IS IN A ZONE WHICH HAS BEEN STRONGLY UPLIFTED. CERTAIN PECULIARITIES OF THE MOVEMENT MAPS LEADING TO ERRORS IN CALCULATING THE VALUES OF DELTA H ARE EXPLAINED. IT IS NOTED THAT BEFORE ADJUSTING THE LEVELING NET, THE DIFFERENCES BETWEEN NODAL POINTS OF THE STATE LEVELING NET MEASURED IN DIFFERENT YEARS MUST BE REDUCED TO THE SAME (PRESENT) TIME BY INTRODUCING DELTA H CORRECTIONS IN THEM BY THE FORMULA H EQUALS (V SUBI-V SUBGAMMA) (T SUBO-T), WHERE V SIBI AND V SUBGAMMA ARE THE RATES OF MOVEMENT OF ADJUACENT KEY STATIONS DETERMINED FROM THE MOVEMENT MAPS. THE ERRORS ARISING IN CARRYING OUT CALCULATIONS BY THIS FORMULA ARE ANALYZED. WHEN ADJUSTING THE STATE LEVELING NET WITH DIFFERENCES REDUCED TO ONE TIME, THE WEIGHTS MUST BE CALCULATED BY THE FORMUS P SUBL EQUALS C DIVIDED BY LM PRIME2 SUBH PLUS (T SUBO MINUS T)M PRIME2 SUBH WHERE M SUBH IS THE ERROR IN DETERMINING THE DELTA H VALUE FOR A PERIOD OF 1 YEAR, L IS THE LENGTH OF THE LEVEL LINE IN KM, AND M SUBH IS THE ERROR IN DETERMINING THE DIFFERENCE FOR A LINE LENGTH OF 1 KILOMETER. A SPECIAL ANALYSIS OF THE PROBLEM OF DETERMINING M SUBDELTA H VALUES IS PRESENTED. A PROCEDURE FOR FINDING APPROXIMATE M SUBDELTA H VALUES SUITABLE FOR CALCULATING THE WEIGHTS P SUBL TO DEVELOP THE STATE LEVELING NET IS PRESENTED.

UNCLASSIFIED

4/4 011 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0136668
ABSTRACT/EXTRACT--THE APPROXIMATE PROCEDURE TAKES INTO ACCOUNT THE FACT THAT SOME SIDES OF THE STATE NET POLYGONS DO NOT COINCIDE WITH THE SIDES OF THE POLYGONS OF THE REPEATED LEVELING NET. IT IS NOTED THAT THE PROPOSED (AND ANY OTHER) PROCEDURE FOR REDUCING THE STATE NET TO THE PRESENT TIME IS NOT FREE OF THE NECESSITY OF REPEATED LEVELING OF A NUMBER OF LINES OF THE NET AT SUBSEQUENT TIMES. THIS NECESSITY ARISES FROM THE POSSIBLE OSCILLATORY NATURE AND POSSIBLE INCONSTANCY OF THE RATES OF VERTICAL MOVEMENTS OF THE EARTH'S SURFACE.

UNCLASSIFIED

USSR

UDC 620.10

ENTIN, I. Z., Candidate of Technical Sciences, ZOLOTUKHIN, N. M., Candidate of Technical Sciences

"Optical Modeling of Large Plastic Deformations"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12, 1971, pp 9-13

Abstract: Models of so-called optically insensitive plastic of the type ONS were used to study the distribution of large plastic deformations in the three-dimensional case. ONS plastic is a modification of plastic obtained with a dibutylphthalate content of 11%. Within the limits of elastic deformations of ONS there is practically no appearance of the double refraction effect and its optical constant is $\sigma_0^{(1)}$ = 5000-10,000 kG/cm^2·cm/band. Beyond the elasticity limit the double refraction effect rises sharply in the glass. ONS admits considerable residual compression deformation at room temperature up to 50-60%. A sample at room temperature that is heated to 100-120° returns to its initial shape and dimensions. At room temperature the residual deformations of ONS are irreversible and the double refraction effect caused by the deformations does not change with time. Such deformations are called isothermally irreversible in the terminology of A. A. Il'yushin. Graphs are given

APPROVED FOR RELEASE: 07/20/2001 CIA-RDP86-00513R002200720020-6"

USSR

ENTIN, I. Z., ZOLOTUKHIN, N. M., Izvestiya vysshikh uchebnykh zavedeniy, Mashinostroyeniye, No. 12, 1971, pp 9-13

showing the distribution of the components of the deformation under sagging and pulling of a cylinder. Resistance to deformation -- relative deformation under sagging graphs for samples of ONS and castings of steel 5 in the hot state are approximately similar and it is therefore possible to model the distribution of plastic deformations on models of ONS, as the experiments showed. Two identical models which sag in the same manner are used to determine numerical values of the components of the deformations in any diametrical cross section of an axisymmetrical sagged cylinder. Diametrical cross sections are cut out of one model and axial cross sections out of the other. These cross sections intersect in the sample along a radial line and at several points of this line on the diametrical and axial cross sections the optical difference is measured in the half delta and the isocline parameter ϕ for the points of the axial cross section. Graphs are given showing the distribution of the deformation components along the axis of symmetry of a transverse cross section of a cylinder stretched between the plane and cut faces.

Card 2/2

ENTIN L. KA. 2

AA0040509

UR 0482

3-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236411 STAMPING of lightgauge austenitic plate is made on lead and zinc stamp by preheating the plate to the temperature of the austenitic formation and then cooling it down to 25-30°C anove the martensitic conversion but below the melting point of the stamp (327°C). Preheating is done in a furnace and for cooling the plate is transferred to an electric oven or to an alkaline bath. 31.7.67. as 1177719/25-27. N.P.PETROVICHEV et al. (11.6.69.) Bul.7/ 3.2.69. Class 7c, 18c. Int.Cl. B21d, C21d.

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AUTHORS: Petrovichev, N. P.; Fomin, A. P.; Stroganov, G. B.; Natapov, S. I.; Entin, L. Kh.; Orzhekhovskiy, Yu. F.

19750009

USSR

UDC 539.5.015

GUREVICH, YA. B., DMITRIYEV, V. N., KONYAYEV, YU. S., OSTROVSKIY, G. A., and ENTIN, R. I., Moscow

"Composite Strengthening of Steel by Hydroextrusion"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 71, pp 71-76

Abstract: An attempt is made to achieve high indicators of strength and ductility of structural steels by combination methods of strengthening: 1) thermomechanical treatment-strain aging of martensite and 2) treatment for an ultra-fine austenite grain-strain aging of martensite. Experiments were conducted using Cr-Ni-Si steels with a carbon content of 0.35% (steel A), 0.45% (steel B), and 0.50% (Steel C). Treatment consisted of austenization at 950°C, cooling to 850°C, rolling, water quenching, and tempering for one hour at 200°C (steel A) and 300°C (steel B). Steel C was treated to produce ultra-fine austenite by quenching from 900°C in oil, tempering for one hour at 200°C, repeated austenization in heating to 900°C at the rate of 100°/sec, water quenching and tempering for one hour at 150 and 300°C. Deformation of the martensite at room temperature was accomplished by hydroextrusion at pressures up to 25 Kbar. From the heat treatments mentioned above the following mechanical properties were achieved.

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GUREVICH, YA. B., et al., Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 71, pp 71-76

	Tensile (kG/mm^2)	Yield (kG/mm^2)	Elongation, %	Reduction in Area, %
Steel A	160	145	9	45
*Steel B	170-290	140-275	6-11	20-37
*Steel C	180-265	150-250	5-12	20-45

*Mechanical property ranges for steels B and C are the result of introducing variations in the heat treating modes.

Three figures, 2 tables, 7 bibliographical references.

2/2

1/2 C29 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DEFORMATION AGING OF MARTENSITE BY USING HYDROEXTRUSION -U-

AUTHOR-(05)-KLRDYUMOV, G.V., VERESHCHAGIN, L.F., ENTIN, R.I., GUREVICH, YA.B., KONYAYEV, YU.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(4), 869-73

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--METAL AGING, METAL DEFORMATION, METALLURGIC RESEARCH FACILITY, HYDROSTATIC EXTRUSION, MARTENSITE, ALLOY DESIGNATION, LOW ALLOY STEEL/(U)KHNMS LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0369 STEP NO--UR/0126/70/029/004/0869/0873

CIRC ACCESSION NO--AP0126124

UNCLASSIFIED

2/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0126124
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATIONS WERE PERFORMED ON STEEL OF THE KHNMS TYPE WITH A C CONTENT OF 0.45PERCENT, PREPD. BY OPEN INDUCTION SMELTING. WITH INCREASING DEGREE OF DEFORMATION THE STRENGTH AND THE YIELD POINT INCREASE. A "CRIT. DEGREE" OF DEFORMATION OF SIMILAR TO 5PERCENT IS OBSD. THEREBY, ABOVE WHICH THE INCREASE IN THE STRENGTH IS RELATIVELY SMALL. THE HIGHEST STRENGTH VALUES ARE OBTAINED UNDER THE CONDITIONS OF HYDROEXTRUSION OF MARTENSITE AND THE SUBSEQUENT NATURAL AGING AT ROOM TEMP. AS THE AGING TEMP. IS INCREASED, THE STRENGTH DECREASES, BUT THE EFFECT IS RETAINED EVEN AFTER AGING AT 400DEGREES. X RAY DIFFRACTION INVESTIGATIONS AND PRECISION D. MEASUREMENTS WERE EMPLOYED TO STUDY THE REASONS FOR THE SIMULTANEOUS INCREASE IN THE STRENGTH AND THE PLASTICITY OF THE STEEL. THE PREVIOUSLY OBTAINED RESULTS CONCERNING THE EFFECTIVENESS OF DEFORMATION AGING OF MARTENSITE UNDER HYDROEXTRUSION CONDITIONS WERE CONFIRMED. THE OPTIMUM TREATMENT CONDITIONS WERE ESTABLISHED. FACILITY: TSNIICHM IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--EFFECT OF THE METHOD OF HARDENING ON THE RUPTURE RESISTANCE OF STEEL IN THE PRESENCE OF A SURFACE STRESS RAISER -U-

AUTHOR-(04)-BERESNEV, G.A., KLEYNER, L.M., SARRAK, V.I., ENTIN, R.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 427-428

DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STRESS CONCENTRATION, ALLOY STEEL, RUPTURE STRENGTH, AGE HARDENING, DISPERSION HARDENING, BRITTLE FRACTURE, TENSILE STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0346 STEP NO--UR/0126/70/029/002/0427/0428

CIRC ACCESSION NO--AP0129578

UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129578

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE METHOD OF HARDENING ON THE RUPTURE RESISTANCE OF A NUMBER OF HIGH STRENGTH ALLOY STEELS IN THE PRESENCE OF A SURFACE CRACK (STRESS RAISER) WAS STUDIED. HARDENING METHODS EMPLOYED INCLUDED: INCREASING THE C CONTENT, STRAIN AGEING, AND DISPERSION HARDENING. THE RESULTS CONFIRMED THAT THERE WAS NO UNAMBIGUOUS RELATIONSHIPS BETWEEN THE NOMINAL UTS ADN THE RESISTANCE TO BRITTLE FRACTURE (IN THE SENSE OF SENSITIVITY TO A SURFACE CRACK); THE RESISTANCE TO BRITTLE FRACTURE DEPENDED ESSENTIALLY ON THE METHOD EMPLOYED TO INCREASE THE STRENGTH AND HARDNESS OF THE MATERIAL.

UNCLASSIFIED

Acc. Nr. AT0049568 ENTIN R.I. Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code 4R0148

102872q **Effect of combined methods of thermomechanical treatment on the properties of structural steel.** Virakhovskii, Yu. G.; Gurevich, Ya. B.; Krupin, A. V.; Entin, R. I. (Mosk. Inst. Stali Splavov, Moscow, USSR). *Izv. Vyssh. Ucheb. Zaved., Chern. Met.* 1970, 13(1), 147–50 (Russ). The results are given of production and lab. comparative studies of the heat treatment of steel KhNMS (C 0.32, Cr 1.02, Ni 5.20, Mo 0.70, Si 0.87, Mn 0.38%; Ac_1 = 715°, Ac_3 = 790°) austenitized at 900° and tempered at 200° for 1 hr. High-and-low (deformation at 850° with 30% redn. in a single pass followed by ~67% combined redn. in 6 passes at 500°) and stepped heat treatment (30% redn. at 850° in a single pass followed by 30% redn. at 750° in a single pass and 30% redn. at both 650° and 500° in 2 passes) both gave more favorable strength and plasticity properties than quenching in water from 850°, and high- and low-temp. heat treatment individually. The practical possibilities of combined heat treatment are discussed. R. Hardbottle

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REEL/FRAME
19801446

1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--HETEROGENEOUS DISTRIBUTION OF INTERNAL STRESSES AND THE BRITTLE FRACTURE TENDENCY OF STEEL -U-

AUTHOR--SARRAK, V.I., SHUBIN, V.N., ENTIN, R.I.

E

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1) 143-9

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BRITTLE FRACTURE, CHROMIUM STEEL, MANGANESE STEEL, ALLOY DESIGNATION, LOW ALLOY STEEL, INTERNAL STRESS, IRON ALLOY, GRAIN BOUNDARY/(U)20KHG CHROMIUM MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0020 STEP NO--UR/0126/70/029/001/0143/0149

CIRC ACCESSION NO--AP0105119

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0105119
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN VIEW OF THE STRONG DEPENDENCE OF THE NATURE OF FRACTURE ON THE STRUCTURAL STATE OF THE METAL, THE DETN. OF THE HETEROGENEITY OF INTERNAL STRESSES FOR CONCRETE STRUCTURES CHARACTERIZED BY DIFFERENT RESISTANCE TO BRITTLE FRACTURE IS OF INTEREST. THE PRESENT INVESTIGATION OF FE AND STEEL 20KHG IN VARIOUS STRUCTURAL STATES SHOWED THAT RELAXATION TESTS ARE CAPABLE OF PROVIDING AN IDEA AS TO THE DEGREE OF LOCAL CONCN. OF STRESSES DURING LOADING. THE LEVEL OF LOCAL INTERNAL STRESSES UNDER LOAD INCREASES WITH INCREASED GRAIN SIZE AND THE HETEROGENEITY OF THE STRUCTURE. THE CHANGE IN THE STATE OF THE GRAIN BOUNDARIES EXERTS NO EFFECT ON THE DEVELOPMENT OF HETEROGENEITY OF STRESSES, AND IT CAN PRODUCE AN INCREASE IN THE TENDENCY TOWARDS BRITTLE FRACTURE AS A RESULT OF DECREASED EFFECTIVE ENERGY OF THE FRACTURE SURFACE.

USSR

YEPIFANTSEVA, I. V., ZHESTKOV, N. G., ZHUKOV, B. P. and ENTIN, S. B.

"Device for Modeling of Pulse-Frequency Modulation in Automatic Systems"

Otkrytiya Izobreteniya Promyshlennyye Obraztsy Tovarnyye Znaki, No 8, Feb 74, pp 142-3

Translation:This is a device for modeling of pulse-frequency modulation in automatic systems,containing an integrator,unit for reproduction of relay characteristics,and direct current voltage source, differing in that in order to expand the functional capabilities of the device, it contains two comparison units, a multiplication unit,and a functional converter, the output of which is connected to the input of the unit for reproduction of relay characteristics, while the inputs are connected to the input signal source and the output of the integrator; to one of the inputs of the latter is connected the direct current voltage supply through the contacts of the output relays of the comparison units, while the other output of the unit for reproduction of relay characteristics is also connected to the first input of the multiplication unit, the second input of which is connected to the input signal source.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SOME PECULIARITIES OF THE EFFECT OF SODIUM TRIPOLY PHOSPHATE ON PORTLAND CEMENT SLIMES -U-
AUTHOR-(03)-BUDNIKOV, P.P., ENTIN, Z.B., BABIN, G.A.

CCUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 333-336

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, SODIUM PHOSPHATE, CALCIUM SULFATE, COLLOID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1586 STEP NO--UR/0069/70/032/003/0333/0336

CIRC ACCESSION NO--AP0125208

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125208

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 0.05-0.2PERCENT OF SODIUM TRIPOLYPHOSPHATE INTRODUCED INTO CEMENT PRODUCES A SIGNIFICANT LIQUEFYING EFFECT, WHICH IS ASSOCIATED WITH THE EXCHANGE ADSORPTION INTERACTION IN COLLOID DISPERSE SYSTEMS AND DOES NOT DEPEND ON THE MINERALOGICAL COMPOSITION OF SLIME, UNLESS IT CONTAINS CALCIUM SULPHATE.

FACILITY: KHIMIKO-TEKHNOLOGICHESKIY INST. IM. D. I. MENDELEYEVA, MOSCOW.

UNCLASSIFIED

AA0038343 E UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

237666 CALCINATION OF RAW MATERIALS IN A FLUIDISED BED according to the parent patent No. 194,608, is improved by blowing hot effluent gases carrying the powdered raw material with a speed smaller than the speed of the falling clinker granules, which have reached the required size, but greater than the speed of smaller granules which, hence, remain in the fluidised bed and collect on their surfaces more raw material until they acquire the desired size. The large granules falling through the discharge zone of the furnaee heat the gases flowing in countercurrent. By this method, energy losses are reduced. 7.10 66. as 1107306/29-33. Z.B.ENTIN et alia. Cement Ind. Res. Inst. (16.6.69.) Bul.8/12.2.69. Class 80b. Int.Cl. C04c.

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19731458

AA0038343

AUTHORS: Entin, Z. B.; Khokhlov, V. K.; Kazanskiy, Yu. V.; Belov, A. P. and Yankelevich, S. V.

Vsesoyuznyy Gosudarstvennyy Nauchno - Issledovatel'skiy Institut Tsementnoy Promyshlennosti

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19731459

USSR UDC: 621.391.81

EPEL'BAUM S. L.

"Results of Computer Modeling of an Algorithm for Signal Separation in Accordance With Engagement of the Phase Trajectories of the Signals in a Channel With Noise"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 1 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works, No 1), Leningrad, 1971, pp 300-305 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A55)

Translation: The paper presents experimental results and their analysis from a study of an algorithm developed by the author for signal separation with respect to the parameter of engagement of the signal phase trajectories. The calculations are done with application to a model of a channel which simulates various noise-like processes at the receiver input. A signal processing algorithm is given as well as the above-mentioned

USSR

EPEL'BAUM, S. L., Materialy Nauch.-tekhn. konf. Leningr. Elektrotekhn. in-t svyazi. Vyp. 1, Leningrad, 1971, pp 300-305

model of random processes. On the basis of observational results, estimates are made of the interference immunity of the given method of signal separation, and problems of optimum selection of certain parameters of signal transformations are solved. Resumé.

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USSR UDC: 621.391.81

EPEL'BAUM, S. Yu. correct

"Separating Signals According to Structural-Topological Properties"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 51, pp 23-32 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A66)

Translation: This paper discusses the simplest topological characteristics of generalized phase trajectories of signals and their use in constructing algorithms of signal division which are resistant to interference. Reasons are presented for the topological method of dividing and classifying signals according to the principle of identifying their phase trajectories with homotopically equivalent paths in a plane with natural signal parametrization. Resumé.

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USSR

UDC: 533.9.07

ROSINSKIY, S. Ye., RUKHADZE, A. A., RUKHLIN, V. G., ŁPEL'BAUM, Ya. G., Physics Institute imeni P. N. Lebedev, Academy of Sciences of the USSR, Moscow

"Injection of an Electron Beam Into a Plasma Contained by a Conductive Shell"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, 929-938

Abstract: One of the most interesting effects which arises as a result of injecting electron beams into a plasma is magnetic neutralization of the beam due to induction of a plasma countercurrent. It is this effect which enables transmission of superhigh currents through a drift space filled with plasma. This paper investigates injection of a radially nonuniform electron beam into a plasma contained by a conductive shell. It is found that the perturbation of charge density is the same as in an unbounded plasma. The fields and currents induced by the beam in the plasma contained by an ideally conductive shell are not qualitatively different from the fields and currents which arise in an unbounded plasma. An ideally conducting shell does not cause any appreciable decompensation of the fields

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ROSINSKIY, S. Ye. et al., Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 5, May 72, pp 929-938

and currents in the plasma but only changes the quantitative data previously found for the case of an unbounded plasma. Thus, the spatial nonuniformity of the beam induces a plasma countercurrent which partially compensates for the magnetic field of the current throughout the entire cross section of the beam. The authors thank D. D. Ryutov for discussing the results of the work.

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USSR UDC 621.357.1.035(088.8)

NOVOSELOV, V. A., NELIDOV, V. B., MITROFANOV, V. S., ARCHAKOV, V. P., EPEL'FEL'D, F. I., SOLOVEY, L. F., PETROVSKII, P. P.

"Device for Distribution of Amalgams"

USSR Author's Certificate No 295736, filed 30/09/69, published 8/04/71. (Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract No 4L245 from the resume).

Translation: A device is patented for distribution of amalgam in scrubber separators, consisting of a perforated grid with a circular tip, separating the upper plane of the grid into central and peripheral zones with apertures for distribution of the amalgam and output of hydrogen, differing in that in order to improve the flow of amalgam, eliminate wear of the fitting and prevent hydraulic shock, the apertures in the peripheral zone are made in the form of slits covered with a screen, while the apertures for passage of amalgam are located at the points of intersection of slots made on the lower plane of the grid and forming projections, preventing blockage of the apertures with granules of the packing.
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USSR UDC 620.197/.198

SAMSONOV, G. V., and EPIK, A. P.

"Refractory Coatings"

Moscow, Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

Translation of Foreword. Development of modern technology involves the necessity of using continuously increasing working temperatures, velocities, high and complex loads, as well as the exploitation of individual units and complete machines and mechanisms under conditions of action by aggressive media. This requires improving existing materials and the development of new ones that are distinguished by increased physico-technical and exploitational characteristics, reliability and technological conditions of production. It is mainly therefore that in the Directives of the Twenty-Fourth Congress of the Communist Party of the USSR for the years 1971-1975 special attention is being paid to the creation and mastering of new especially economical

SAMSONOV, G. V., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

materials, and the development and introduction into production of the latest methods of strengthening metals.

Included in the most promising materials of this type along with refractory metals and their alloys are the refractory metal-like and non-metallic compounds such as carbides, borides, nitrides, silicides, aluminides, beryllides, oxides, and sulfides [1-4]. However their direct utilization for manufacturing parts for machines and mechanisms is often limited by technological difficulties, significant brittleness, and low strength properties under conditions of dynamic loads, as well as a relatively high cost.

Therefore it is much more feasible to use the useful properties of refractory compounds applying them in the form of coatings of sufficiently strong and plastic bases. The creation of such coatings in a number of cases is most effective and sometimes

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SAMSONOV, G. V., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

is the only means of solving complex technical problems [52]. Coatings of refractory compounds are distinguished also by another important feature -- they are economically profitable since their use permits in a number of cases simplifying the technology and also replacing expensive and rare metals with less deficient materials without substantial change in the efficiency of parts, structures, and aggregates. Thus, for example, corrosion-resistant high-temperature chrome and chrome-nickel steels in a number of instances are being replaced successfully by carbon steels with chrome, nickel, zinc, and other coatings deposited by various methods.

The use of different types of wear-resistant and antifriction coatings permits increasing the lifetime and increasing the reliability of operation of unlike parts of machines and instruments. Such methods of producing diffusion protective coatings which increase the hardness and wear-resistance of steel

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SAMSONOV, G. V., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

parts such as cementation, nitriding, nitrocementation, and chrome-plating have become traditional in modern machine construction.

Without protective scale-resistant coatings it is impossible to create and use refractory materials on a base of refractory metals of the large set of four (niobium, tantalum, molybdenum, and tungsten) in oxidizing media.

At the present time in the domestic and foreign press hundreds of works appear every year devoted to different types of protective coatings and methods of depositing them. These works are often published in rare and difficult-to-obtain sources, they are scattered and not systematized which to a significant degree makes their use by investigators and industrial workers involved with the development and use of coatings more difficult. In recent years several monographs have appeared which to a

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SAMSONOV, G. C., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

known degree generalize the accumulated experience in the area of creating and using different types of coatings. Among them it follows especially to mention monographs [6-11]. Furthermore a number of collections [12-23] have been published in the Nauka and Naukova Dumka Publishing Houses which contain the works of scientific conferences and seminars on different questions of the theory and technology of producing coatings as well as their use in practice.

However all these publications have appeared unfortunately in small editions and have already become a bibliographic rarity.

In this work the authors pursued the goal of systematizing and generalizing the data available in the literature as well as their own experience in the field of creating and investigating the properties of coatings on the base of refractory compounds and metals. Here by the term "refractory" they mean metals, alloys, compounds, and composition materials with a melting point

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SAMSONOV, G. V., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

as a rule no lower than 1500° C. Exceptions are the boride coatings on alloys of iron, a number of intermetallides, and composition coatings in which the melting points are below 1500° C, but they are finding broad practical use as a consequence of other valuable technological properties (hardness, wear resistance, and corrosion resistance).

The work contains no description of several methods of production and types of coatings which have been described in sufficient detail in the respective monographs [6-9]. Special attention in the book is paid to the following three methods of producing coatings -- diffusion saturation, sputtering, and deposition from the gas and vapor phase as the most widely used and promising methods in practice. Simultaneously they examine several other developing methods including combined ones, that is, representing a set of two or more simple methods.

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SAMSONOV, G. C., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

In describing the properties of refractory compounds and metals attention is paid mainly to those properties which may have value when working with these materials as coatings.

The book includes only those technological variations of depositing coatings and their properties which are most interesting from the scientific viewpoint and important in the practical sense.

More space is devoted to coatings produced by the method of diffusion saturation in comparison to coatings that are sputtered and deposited from the gas and vapor phases, as well as those that are deposited by other methods.

The authors will accept with appreciation all comments pertaining to the content of the book and the form of the discussion.

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SAMSONOV, G. V., et al., Tugoplavkiye Pokrytiya, Moscow, Izd-vo Metallurgiya, 1973, 400 pp

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